

REMARKS/ARGUMENTS

Claims 1-44 are pending in the application. Claims 1, 3-9 and 13-41 are presently examined. Claims 2, 10-12 and 42-44 are withdrawn from consideration as subject to a restriction requirement. Claims 1 and 41 are amended with this paper.

Claims 1 and 41 have been amended to eliminate the language added with the last amendment mailed April 10, 2003. These claims have been returned to their original form. Accordingly, Applicants submit that the amendments to the claims is supported by the originally filed claims 1 and 41.

Previous Rejection

Previously claims 1, 3-9, and 13-41 stood rejected under 35 USC §103 as being unpatentable over Buehrle II et al in view of Manka et al. As confirmed in a telephone conference with the Examiner, the rejection has been withdrawn. Applicants thank the Examiner for extending the courtesy of a telephone conference to clarify the status of this rejection.

§112 Rejection

Claims 1 and 41 stand rejected under 35 USC §112, second paragraph, as being indefinite for omitting essential steps. The Office Action has indicated that omitted steps are (A) lubricating the intake and exhaust valves, and (B) providing the lubricating oil to the hydraulic actuator.

Applicants have amended claims 1 and 41 and eliminated the language that has led to this §112 rejection. Accordingly, Applicants submit that the above-identified rejection is obviated.

Applicants had previously submitted their amendment to address the comment in the Office Action that the Examiner had given no patentable weight to the term “camless” in the preamble of the present claims. However, Applicants wish to point out that in step (A) and (B) the engine is referred to as “said engine” which refers to the “camless” internal combustion engine described in the preamble of the claims. Applicants submit that since “said engine” refers to the camless engine of the preamble of the claim, the present claims

are directed to camless engines. Accordingly, the camless limitation is not a limitation only found within the preamble but also found within the body of the claim and should be given patentable weight. Accordingly, Applicants request the Examiner to give patentable weight to that term.

§103 Rejection

Claims 1, 3-9 and 13-41 stand rejected under 35 USC §103(a) as being unpatentable over Schechter (U.S. Patent 5,456,222) in view of Manka et al (U.S. Patent 5,834,407). The Office Action indicates that Schechter teaches a method of operating a camless internal combustion engine, actuating the intake and exhaust valves by electro-hydraulic actuator. The Office Action indicates the Manka et al teach a low-phosphorus or phosphorus-free lubricating oil composition for an engine containing an extreme pressure additive comprised of metal and phosphorus, provided that the amount of phosphorus contributed to the low-phosphorus or phosphorus-free lubricating oil composition by the extreme-pressure additive does not exceed about 0.08% by weight based on the weight of the low-phosphorus or phosphorus-free lubricating oil composition. The Office Action then concludes it would be obvious to one of ordinary skill in the art to employ the low-phosphorus lubricating oil composition taught by Manka et al in the camless engine of Schechter to reduce wear, noise and exhaust emissions.

Applicants submit that the Examiner has failed to establish a prima facie case of obviousness.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. (MPEP §2143).

The reasonable expectation of success and the teaching or suggestion to make the claimed combination must be supplied from the prior art and not Applicants' disclosure (*In re Vaeck*, 20 USPQ 2d 1438 (Fed. Cir. 1991)).

Schechter relates to a spool valve control on an electro-hydraulic camless valve train. Schechter is discussed in Applicants' specification at page 13, lines 4-12. Schechter teaches that the spool valve provides control of high and low pressure hydraulic fluid supplied to and drawn from the hydraulic engine valve.

Schechter does not teach or suggest lubricating compositions which are useful in the internal combustion engine. Schechter is concerned with solving the problem associated with the use of hydraulic engine valves. Schechter solves the problem by the use of a spool valve. However, Schechter is silent about any particular lubricant used for the engine.

Manka et al relate to a lubricating oil composition comprising a major amount of an oil of lubricating viscosity and a minor amount of a certain heterocyclic compound. Manka et al seek to solve the problem associated with the use of zinc dithiophosphate in engine oils. Manka et al teach that the zinc dithiophosphates result in deactivation of emission control catalysts used in automotive exhaust systems. As taught by Manka et al

Since phosphates may result in deactivation of emission control catalysts used in automotive exhaust systems, a reduction in the amount of phosphorus-containing additives (e.g., ZDDP) in the oil would be desirable. The problem sought to be overcome is to provide for a reduction in the amount of phosphorus-containing additive in lubricating oil and yet provide the lubricating oil with the desired antiwear properties (column 1, lines 19-26).

The term "ZDDP" refers to zinc dithiophosphates as defined by Manka et al above.

Manka et al teach that the lubricating compositions disclosed therein are useful in reducing the amount of zinc dithiophosphate in engine oils. Manka et al teach that the presence of zinc dithiophosphate has a negative effect on the emission control systems

of automotive engines. Manka et al seek to solve the problem by providing a low-phosphorus or no phosphorus lubricating oil which provides for the antiwear properties lost by removing zinc dithiophosphates from the lubricating composition.

Manka et al is concerned with the catalytical emission control system of an internal combustion engine and not a camless engine. There is no motivation or guidance in Manka et al to have a person of ordinary skill in the art to use the lubricant of Manka et al in a camless engine.

Schechter is used as a primary reference to teach camless engines. Although Schechter does teach camless engines, there is no teaching or motivation within Schechter which is directed to the lubricant used for the engine. Manka et al is used as a secondary reference to make up for the deficiencies of Schechter. The Examiner has indicated that the motivation for combining the references is to reduce wear, noise and exhaust emissions. However, there is no teaching or suggestion in the references or reason of record to provide such motivation. Applicants submit that the motivation must be supplied by the references and not Applicants' disclosure.

There is no teaching within either reference or evidence of record which would provide to one of ordinary skill in the art a reasonable expectation of success for the combination as suggested by the Examiner. There is no teaching within Schechter or Manka et al which would lead one to believe that the low or no phosphorus engine oil of Manka et al would have a beneficial effect in the camless engine taught by Schechter. The prior art can be combined only when there is a reasonable expectation of success (*In re Merck & Co., Inc.*, 231 USPQ 375 (Fed. Cir. 1986)). There is no indication within either reference or evidence of record that would lead one of ordinary skill to have a reasonable expectation of success in the combination as suggested by the Examiner. Accordingly, Applicants submit that the Examiner has failed to establish a prima facie case of obviousness and request withdrawal of this rejection.

Applicants additionally submit that the Examiner has failed to establish a suggestion or reason of record which would motivate one of ordinary skill to combine the references as suggested in the Office Action. In their last response, Applicants set out the legal guidelines for combining references. As is well known, there must be a teaching within the

references or a reason of record which would motivate one of ordinary skill in the art to combine the references. There is no teaching within Schechter that would motivate one of ordinary skill to look for low-phosphorus lubricants. Schechter is silent about what lubricants are used in the engine and therefore provides no motivation for one to look for a low-phosphorus lubricant as taught by Manka et al. Also, Manka et al provide no motivation to put a low phosphorus or no phosphorus lubricant into a camless engine. Manka et al teaches that their lubricant helps solve the problem of the adverse affect of zinc dithiophosphates on emission control catalysts. Manka et al has no teaching or suggestion that the low-phosphorus and no-phosphorus lubricants have any beneficial effects in camless engines.

Applicants submit that the Examiner has failed to establish a prima facie case of obviousness because there is no motivation in Schechter or Manka et al to combine their teachings as suggested by the Examiner. Neither of the references teach or suggest any desirability of making the combination. The mere fact that references may be combined does not render the result and combination obvious unless the references suggest the desirability of that combination (*In re Mills*, USPQ 2d 1430 (Fed. Cir. 1990)). Accordingly, Applicants submit that the combination of Schechter in view of Manka et al does not render their claims obvious.

In view of the above comments, Applicants request the Examiner to withdraw the rejection and allow the claims.

In the event any issues remain in the prosecution of this application, Applicants request that the Examiner call the undersigned attorney to expedite allowance of the claims. If any fees are required for the filing of these papers, Applicants request the Commissioner to charge those fees to Deposit Account #18-0988.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

By 

Neil A. DuChez
Reg. No. 26,725

1621 Euclid Avenue, 19th Floor
Cleveland, Ohio 44115
(216) 621-1113